



Loudoun County, Virginia VSMP Small MS4 Stormwater Management Program 2008

The following represents Loudoun County's proposed Stormwater Management Program to comply with the six minimum control measures outlined in the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s). This will enable the County to meet the following goals:

- ◆ Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- ◆ Protect water quality; and,
- ◆ Satisfy the appropriate water quality requirements of the Clean Water Act.

The Program addresses all six minimum control measures outlined in Virginia's General Permit. In addition to the best management practice (BMP) menus for each of the six minimum control measures, the County has also incorporated an additional Program Administration section. Program Administration BMPs have been crafted to facilitate programmatic updates.

To arrive at appropriate and cost-effective BMPs, the County engaged in an assessment of the existing stormwater management operations, ordinances, and programming as they relate to the Virginia Stormwater Management Program (VSMP) MS4 compliance requirements. Further, as guidelines for satisfying Virginia's MEP threshold, the County examined each proposed BMP to determine whether the County had the legal, technical, administrative, and financial ability to ensure effective implementation. Included in the examination of financial ability, the County examined the potential budget implications of the proposed program and evaluated the resources required to address the plan's components. Based on those findings and current budget allocations, the County can support the Program through appropriations from the General Fund.

For each of the BMPs selected to meet compliance requirements, the County has identified timelines, measurable goals, and responsible parties. This Program is divided into seven sections; one for Program Administration, followed by one for each of the six minimum control measures in the General Permit. Within each section is a list of control measure requirements, a summary of the existing program, the BMP menu designed for each control measure, and a BMP summary table, which also notes whether the BMP is new, proposed programming, or an existing program being leveraged for compliance.

The County recognizes that three Total Maximum Daily Loads (TMDLs) have been developed and approved by the Virginia Soil & Water Conservation Board for which a wasteload allocation (WLA) has been established for the MS4. These TMDLs are:

Approved TMDLs with WLA to MS4 – Loudoun County, Virginia		
Water Body/Reach	Identified Impairment	Pollutant of Concern
Bull Run/A23R	Bacteria	E. Coli
Bull Run/A23R	Benthic	Sediment
Goose Creek/A08R	Benthic	Sediment

The General Permit requires that a specific series of activities and BMPs be incorporated into the MS4 Program to address the WLA in the TMDL. This Small MS4 Program includes a number of BMPs, incorporated within each of the following seven sections, designed to meet the TMDL-specific requirements in Section I, Paragraph B of the General Permit's Discharge Authority and Special Conditions section, as follows:

TMDL-Specific BMP References in the Small MS4 Program				
Water Body/Reach	Identified Impairment for TMDL	Pollutant of Concern	Activity	Program BMP Referenced
Bull Run/A23R Goose Creek/A08R	Benthic/ Bacteria	Sediment E. Coli	List of ordinances etc. & component review	C
Bull Run/A23R Goose Creek/A08R	Benthic/ Bacteria	Sediment E. Coli	Determine effectiveness, weaknesses, strategies	D
Bull Run/A23R	Bacteria	E. Coli	Radio Advertisement/CWP	1F
Bull Run/A23R	Bacteria	E. Coli	Pet Waste Brochure	1B, 1H, 1I
Bull Run/A23R	Bacteria	E. Coli	Public Ed/Web Site	1J
Bull Run/A23R	Bacteria	E. Coli	Pet Waste Stations	2F
Bull Run/A23R	Bacteria	E. Coli	Outfall Screening	3H
Bull Run/A23R Goose Creek/A08R	Benthic	Sediment	Outfall Screening	3H
Bull Run/A23R Goose Creek/A08R	Benthic	Sediment	E&S Program Administration	4A
Bull Run/A23R Goose Creek/A08R	Benthic	Sediment	VSMP Construction Site Permit Verification	4B
Bull Run/A23R Goose Creek/A08R	Benthic	Sediment	Zoning Ordinance/FSM Evaluation	4F
Bull Run/A23R Goose Creek/A08R	Benthic	Sediment	County SWM Ordinance Review	5A

For reporting purposes, the County will submit the permit year one annual report to the Virginia Department of Conservation and Recreation (DCR), covering the period August 1, 2007 through June 30, 2009 no later than October 1, 2009. Permit year two activities will start on July 1, 2009, with the annual reporting schedule running through the remainder of the permit period. As such, activities noted in this Program for action/activity in permit year one will be completed/executed by June 30, 2009.

Program Administration

As operator of a regulated Small MS4, the County must annually evaluate:

1. Program compliance;
2. The appropriateness of the identified BMPs; and
3. Progress towards achieving the identified measurable goals.

The operator must also evaluate the program once during the permit cycle using the "Municipal Stormwater Program Evaluation Guidance," Environmental Protection Agency EPA-833-R-07-003.

Existing Program

Loudoun County manages stormwater through a comprehensive local program that features the following four primary functions: (1) design review and inspection of new construction, which ensures that quality and quantity control of increased stormwater is adequately addressed, (2) erosion and sediment management on open construction sites, (3) inspection, repair, and maintenance of existing stormwater facilities, and (4) management of the MS4 Permit.

The program is administered by two departments. Building and Development performs design review and inspection of new construction and manages the Erosion and Sedimentation Program. General Services provides for inspection, repair, and maintenance of existing stormwater facilities and manages the MS4 Permit.

Stormwater Management is governed by a series of ordinances and documents referenced throughout this Program that guide the planning, development, implementation, and maintenance of stormwater management practices and facilities in the County.

A. BMP: Evaluate the effectiveness of the program BMPs.

Objective: To ensure that, to the maximum extent practicable, all program BMPs are achieving the objectives intended and to correct deficiencies and/or inefficiencies identified through the conduct of the program.

Measurable Goal: The County will evaluate each program BMP annually to determine its effectiveness with recommendations for continuance or revision. The evaluation methodology for each BMP will be either quantitative or qualitative, depending on the nature of the metric established for the BMP, and will focus on the BMP's effectiveness in achieving its stated objective in the program plan.

Necessary Documents: VSMP Small MS4 Program

Responsible Party: Department of General Services.

Implementation Schedule: The first evaluation will be conducted and reported on in permit year two.

Items to Report: Evaluation report.

B. BMP: Perform a program self-evaluation.

Objective: To ensure that, to the maximum extent practicable, the Stormwater Management Program is meeting the goals of the Virginia Department of Conservation and Recreation and the Environmental Protection Agency.

Measurable Goal: The County will evaluate its MS4 Program using the "Municipal Stormwater Program Evaluation Guidance," Environmental Protection Agency EPA-833-R-07-003, and keep the results on file to be made available during audits and inspections.

Necessary Documents: "Municipal Stormwater Program Evaluation Guidance," Environmental Protection Agency EPA-833-R-07-003.

Responsible Party: Department of General Services.

Implementation Schedule: This activity will be completed during permit year four.

Items to Report: None. Results are to be kept on file.

C. BMP: Develop a list of current ordinances and legal authorities, BMPs, policies, plans, procedures, and contracts applicable to reducing the pollutant identified in wasteload allocations (WLAs) for approved Total Maximum Daily Loads (TMDLs) in the MS4.

Objective: To identify the various tools available for use in reducing the pollutants identified in wasteload allocations.

Measurable Goal: The County will develop a list of ordinances and legal authorities, BMPs, Policies, Plans, Procedures, and Contracts applicable to reducing the pollutant identified in wasteload allocations (WLAs) for approved Total Maximum Daily Loads (TMDLs) in the MS4 by the conclusion of permit year one.

Necessary Documents: Applicable ordinances, BMPs, policies, plans, procedures, and contracts.

Responsible Party: Department of General Services.

Implementation Schedule: This activity will be completed during permit year one.

Items to Report: Resulting list.

D. BMP: Evaluate the materials identified in BMP C to determine their effectiveness in meeting the WLA in a manner consistent with the TMDL and identify any weaknesses or limitations.

Objective: To evaluate legal authority and implementation alternatives for programming aimed at reducing the pollutants identified in the County's WLAs for approved TMDLs and identify any weaknesses or limitations.

Measurable Goal: The County will evaluate materials listed as a result of BMP C for any weaknesses or limitations, as described above, and develop a menu of potential alternatives/solutions to address the identified weaknesses or limitations, if any.

Necessary Documents: Applicable ordinances, BMPs, policies, plans, procedures, and contracts.

Responsible Party: Department of General Services.

Implementation Schedule: This activity will be completed during permit year two.

Items to Report: Resulting list of identified weaknesses and/or limitations, if any, and resulting menu of potential alternatives/solutions to those weaknesses and/or limitations.

Program Administration				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
A. Evaluate the effectiveness of the program BMPs.	Year 2*	Department of General Services	Produce an evaluation report.	New
B. Program Self-Evaluation.	Year 4	Department of General Services	Prepare a report to be kept on file for audits.	New
C. List of ordinances, authorities, etc.	Year 1	Department of General Services	Develop list; provide with annual report.	New
D. Evaluate list for weaknesses or limitations.	Year 2	Department of General Services	Develop list; provide menu of alternatives in annual report.	New

* denotes ongoing programming post initiation

Minimum Control Measures

I. Public Education and Outreach

As operator of a regulated small MS4, the County must identify, schedule, implement, evaluate, and modify, as necessary, practices that meet the following goals:

1. Increased individual and household knowledge about steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns.
2. Increased public employee, business, and general public knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications.
3. Increased individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean up projects, programs, groups, meetings and other opportunities for public involvement.
4. Diverse strategies to target audiences specific to the area serviced by the small MS4.
5. Improved outreach program to address viewpoints and concerns of target audiences with a recommended focus on minority and disadvantaged audiences and minors.
6. Targeted strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.

Existing Program

During the previous VSMP Permit cycle, the County added a stormwater page to their website. The page is used to provide citizens with information about the stormwater program. Available on that page are the Stormwater Management Ordinance, the VSMP Permit Program, annual progress reports, news releases for upcoming events, and useful educational information. There is also a link provided to the Public Outreach page which includes other educational and environmental information and the internet locations for other information resources.

Elsewhere on the County website is the Online Mapping System. This system can be used to view a variety of land-based information including the entire county stormwater system.

The Department of General Services maintains a Speakers' Bureau to provide sources knowledgeable about county stormwater issues for public gatherings such as Homeowners' Association meetings.

The County is a member of the Northern Virginia Clean Water Partners. Through that organization, the county participates in an annual radio campaign to educate the public on stormwater concerns.

1A. BMP: Investigate and develop a compilation of readily available stormwater management, water quality, and stormwater pollution prevention materials applicable to the County in print and electronic format.

Objective: To maximize efficiency by utilizing public education and information tools already developed for stormwater management, water quality, and stormwater pollution prevention that are applicable to the County or may be easily adapted for use. Sources may include federal resources (EPA), state resources (DCR), and materials developed by other localities in Virginia and elsewhere.

Measurable Goal: By the conclusion of permit year one, the County will have developed an inventory of printed public education and information materials deemed applicable to the MS4 program.

Necessary Documents: None.

Responsible Party: Department of General Services.

Schedule: Complete by the conclusion of permit year one.

Items to Report: List of materials deemed applicable to the MS4 program.

Method of Evaluation: N/A.

1B. BMP: Develop additional, targeted public education materials as necessary upon completion of BMP 1A.

Objective: To provide the County with an adequate array of materials from which to choose when targeting stormwater management, water quality, and stormwater pollution prevention messages to specific audiences.

Measurable Goal: As necessary, the County will develop additional public education and information materials in print and electronic format upon completion of BMP 1A, and will ensure that printed material will be available to the County's business community regarding illicit discharge and illegal dumping prevention, as well as printed material on the impact of sediment and bacterial pollution on waterways, consistent with the approved TMDLs and WLAs for Bull Run and Goose Creek and other known impaired waters in the MS4.

Necessary Documents: None.

Responsible Party: Department of General Services, with assistance from the Loudoun Soil & Water Conservation District.

Schedule: The first new materials will be available at the completion of permit year two.

Items to Report: List of additional materials developed to fill any gaps in available information obtained in BMP 1A.

Method of Evaluation: Review of public education materials available to target stormwater management, water quality, and stormwater pollution prevention messages to Loudoun's recognizable audiences.

1C. BMP: Develop and implement an electronic messaging notification system for stormwater management and pollution prevention topics.

Objective: To provide the capability for citizens to receive electronic messages related to stormwater management, water quality, and stormwater pollution prevention.

Measurable Goal: Develop the capability to deliver electronic messages on stormwater management and pollution prevention topics to County residents by the conclusion of permit year two.

Necessary Documents: None.

Responsible Party: Department of Information Technology, with assistance from the Department of General Services.

Schedule: Develop the capability to deliver informational e-mails to County residents by the conclusion of permit year two.

Items to Report: Number of email messages related to stormwater management, water quality, and stormwater pollution prevention executed in the permit year.

Method of Evaluation: Review number of registrants that sign up for broadcast alerts.

1D. BMP: Deliver radio announcements on stormwater management, surface water quality, or stormwater pollution prevention topics.

Objective: To reach as broad and diverse an audience as possible using radio broadcast media to convey basic messages regarding proper household management for stormwater pollution prevention and water quality improvements.

Measurable Goal: The County will continue to participate in the Northern Virginia Clean Water Partners radio advertisement campaign, with advertisements scheduled to run twice per year on radio stations serving a geographic area that includes the County.

Necessary Documents: None.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Number of radio announcements run per year.

Method of Evaluation: Review of results of any third party polling service engaged by the Northern Virginia Clean Water Partners.

1E. BMP: Deliver televised programs/announcements on stormwater management, surface water quality, or stormwater pollution prevention topics.

Objective: To reach as broad and diverse an audience as possible using cable access television to convey basic messages regarding proper household management for stormwater pollution prevention and water quality improvements.

Measurable Goal: The County will continue to provide at least one televised program or announcement on stormwater management, surface water quality, or stormwater pollution prevention on local cable access television (Comcast Government Channel 23 and Verizon FiOS Channel 40) per year for the duration of the permit period.

Necessary Documents: None.

Responsible Party: Department of General Services and the Public Information Office.

Schedule: Ongoing program.

Items to Report: Number of televised programs/announcements run per year.

Method of Evaluation: Review of viewership numbers for broadcast programming.

1F. BMP: Provide articles on stormwater pollution prevention topics applicable to the County's water customers through Loudoun Water's quarterly newsletter.

Objective: To distribute print materials to a variety of audiences, which may be identified through analysis of the Loudoun Water utility customer database, to convey messages concerning stormwater management, water quality, stormwater pollution prevention, illicit discharges, and the reduction/elimination of discharges of pollutants identified in a WLA to a variety of County citizens.

Measurable Goal: By the conclusion of permit year three, the County will implement a program, for the inclusion in quarterly billing statements, of educational articles relating to stormwater management, water quality, stormwater pollution prevention, illicit discharges, and the reduction/elimination of discharges of pollutants identified in a WLA to households, commercial properties, and industries served by Loudoun Water in the County's MS4 permit area.

Necessary Documents: Loudoun Water quarterly newsletter.

Responsible Party: Department of General Services, with assistance from Loudoun Water.

Schedule: Loudoun Water bills its utility customers quarterly. The County will implement the inclusion of stormwater pollution prevention articles in Loudoun Water's quarterly newsletter, distributed with Loudoun Water's quarterly bills, by the final billing cycle of permit year three.

Items to Report: Number of stormwater-related articles included in the Loudoun Water newsletter.

Method of Evaluation: N/A.

1G. BMP: Distribute printed media materials identified in BMP 1A and 1B at the Government Center and Public Libraries.

Objective: To provide a standard distribution point for stormwater management, water quality, and stormwater pollution prevention educational materials in printed form.

Measurable Goal: By the conclusion of permit year two, the County will provide the printed materials identified in BMP 1A and 1B to the Government Center and the Public Libraries.

Necessary Documents: Printed materials to be identified in BMP 1A and developed in BMP 1B, if necessary.

Responsible Party: Department of General Services.

Schedule: Provide printed materials by the conclusion of permit year two and then through the remainder of the permit cycle.

Items to Report: Number of distribution points utilized, number and type of printed materials supplied to each distribution point through the year.

Method of Evaluation: Review number and type of materials distributed throughout the year to evaluate utility of this media for educational message disbursement.

1H. BMP: Provide Internet access to downloadable stormwater management and stormwater pollution prevention materials identified in BMP 1A or developed in BMP 1B above.

Objective: To provide education and information to County citizens on stormwater management, water quality, and stormwater pollution prevention via the Internet and to provide those materials in easily reproducible electronic format.

Measurable Goal: By the conclusion of permit year three, the County will have posted, on its website or on a separate website, downloadable materials researched as part of BMP 1A.

Necessary Documents: Materials to be identified in BMP 1A; County Internet web site posting protocols.

Responsible Party: Public Information Office, with assistance from the Department of General Services.

Schedule: Post downloadable materials identified and/or developed in BMPs 1A and 1B by the conclusion of permit year three.

Items to Report: Number of items available for download from the Internet.

Method of Evaluation: Review number of web hits and downloads of material to evaluate utility of this media for distribution of materials.

1I. BMP: Develop and initiate watershed education programs for Loudoun County Public School students in grades K-5.

Objective: To target stormwater management, water quality, and stormwater pollution prevention educational messages to school-age children.

Measurable Goal: By the conclusion of permit year four, the County will develop and initiate watershed education programs with a specific focus on stormwater management, water quality, and stormwater pollution prevention for Loudoun County Public School children in grades K-5.

Necessary Documents: Educational materials for distribution to school children.

Responsible Party: Department of General Services, with assistance from the Loudoun Soil and Water Conservation District.

Schedule: Watershed education programs for Loudoun County Public School children will be initiated by the conclusion of permit year four and remain ongoing through the remainder of the permit cycle.

Items to Report: Number of sessions conducted each year.

Method of Evaluation: Review demand for programming in the Loudoun County Public School System to evaluate utility and efficiency of this avenue for public education on stormwater.

Public Education and Outreach Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
1A. Compilation of available materials.	Year 1	Department of General Services	Develop list of available materials.	New
1B. Develop additional, targeted education materials	Year 2	Department of General Services	Develop additional materials needed but not ID'd in 1A	New
1C. Electronic message capability for stormwater-related topics.	Year 2	Department of Information Tech	Develop e-message capability for stormwater-related topics.	New
1D. Radio announcement on stormwater topic.	Year 1*	Department of General Services	Radio ad campaign for stormwater pollution prevention	Existing
1E. Televised program/announcement on stormwater topic.	Year 1*	Department of General Services and County PIO	Deliver local cable access TV spot on SWM at least once annually	Existing
1F. Mailing of SW pollution prevention articles through the Loudoun Water newsletter.	Year 3*	Department of General Services	Distribution of targeted materials to Loudoun Water utility customers	New
1G. Distribute printed materials in County facilities.	Year 2*	Department of General Services	Distribute educational materials in County facilities	New
1H. Enhance County stormwater management web site.	Year 3*	Public Information Office	Distribute educational materials on County SWM web site	New
1I. Watershed education for K-5 Loudoun County Public School students.	Year 4*	Department of General Services	Classroom/field educational program for K-5 LCPS students	New

* denotes ongoing programming once initiated.

II. Public Involvement / Participation

As operator of a regulated small MS4, Loudoun County must identify, schedule, implement, evaluate, and modify, as necessary, practices that meet the following goals:

1. Promote the availability of the MS4 Program for public review and comment and provide access to or copies of the MS4 Program upon request of interested parties in compliance with all applicable freedom of information regulations.
2. Provide access to or copies of the annual report upon request of interested parties in compliance with all applicable freedom of information regulations.
3. Participate, through promotion, sponsorship, or other involvement, in local activities aimed at increasing public participation to reduce stormwater pollutant loads and improve water quality.

Existing Program

The County currently provides two ways for citizens to contact stormwater staff regarding concerns or complaints. The first is a stormwater telephone hotline and the second is an online comment form. Both typically generate a response within 24 hours.

The County also operates a passive Storm Drain Decal program, providing decals to citizens upon request. The purpose of the program is to provide opportunities, primarily for students, to participate in clean water activities and simultaneously inform citizens that water entering storm drains goes directly to our rivers.

Finally, the County's stormwater web page is used to inform citizens of upcoming events, such as the annual Family Stream Day, and to provide access information to other public and private groups offering similar opportunities.

2A. BMP: Provide printed copies of the MS4 Program at the Government Center and Public Libraries for public review and post an electronic version of the Plan on the County's Stormwater Management Internet web site for download.

Objective: To make the MS4 Program available to the County citizens in multiple formats and from multiple venues.

Measurable Goal: The County will provide printed copies of the MS4 Program for public review at the Government Center and Public Libraries, post an electronic version of the plan on the County's Stormwater Management Internet web site for download, and provide written copies to members of the general public upon request.

Necessary Documents: MS4 Program.

Responsible Party: Department of General Services.

Schedule: The County will make the MS4 Program available subsequent to approval by the Virginia Department of Conservation & Recreation (DCR).

Items to Report: List of locations where printed plan is available and the number of copies distributed.

Method of Evaluation: N/A.

2B. BMP: Draft and post a news item on the County web site announcing the availability of copies of the MS4 Program.

Objective: To inform County citizens of the availability of the MS4 Program.

Measurable Goal: Upon acceptance by DCR, the County will post a news item on the County web site noting the availability of the MS4 Program, including locations where copies are available and instructions for downloading the document from the County web site.

Necessary Documents: MS4 Program.

Responsible Party: Department of General Services.

Schedule: Upon approval by DCR.

Items to Report: Copy of posted news item announcing the availability of the Program.

Method of Evaluation: N/A.

2C. BMP: Promote the storm drain marking program with civic groups and Homeowners' Associations in the MS4 permit area.

Objective: To provide opportunities for interested citizens, including school children, to engage in hands-on environmental education by marking storm drains to denote the pollution potential and potential impacts of illicit discharges and illegal dumping into the MS4. The County anticipates that the majority of any storm drain marking program will take place on residential streets in County subdivisions.

Measurable Goal: Beginning in permit year three and continuing through the permit cycle, the County will actively promote the storm drain marking program.

Necessary Documents: Drain markers; VDOT permits; marker application instructions.

Responsible Party: Department of General Services, with assistance from the Loudoun Soil & Water Conservation District.

Schedule: Initiation of promotion program in permit year three and ongoing through remainder of permit cycle.

Items to Report: Number of drains marked and a list of civic groups or HOAs contacted.

Method of Evaluation: Review requests for storm drain marking supplies and assistance to evaluate the feasibility of this avenue for present and future public involvement in stormwater pollution prevention.

2D. BMP: Promote water quality stream monitoring opportunities throughout the County.

Objective: To notify interested citizens of the available opportunities in the County to participate in citizen-based water quality monitoring projects for County waterways.

Measurable Goal: Through the Loudoun Soil & Water Conservation District (LSWCD), the County will promote the availability of citizen-based water quality monitoring programming by the conclusion of permit year two through advertisement on the LSWCD Internet web site and a link to the LSWCD page from the Stormwater Management page of the County web site.

Necessary Documents: None.

Responsible Party: Department of General Services, with assistance from the Loudoun Soil & Water Conservation District.

Schedule: Identify opportunities and post them by the end of permit year two.

Items to Report: Number of volunteer monitoring opportunities advertised.

Method of Evaluation: Review requests/inquiries for participation in citizen-based water quality monitoring programming throughout the County upon posting of opportunities to evaluate citizen interest in the activity.

2E. BMP: Provide pet waste stations for County park properties.

Objective: To facilitate the removal of pet waste from public open spaces in the County to help combat excessive bacterial loads to the County's receiving waters. In addition, stations will denote current County Code requirements concerning picking up after pets walked in public spaces.

Measurable Goal: By the conclusion of permit year four, the County will install and maintain pet waste stations, including bags and receptacles, on Parks and Recreation properties throughout the County.

Necessary Documents: None.

Responsible Party: Department of Parks, Recreation, & Community Services, with assistance from the Department of General Services.

Schedule: Pet waste stations to be in place and maintained by the conclusion of permit year four.

Items to Report: Number of stations installed and the park properties containing stations.

Method of Evaluation: Review roster of supplies consumed in park facilities to evaluate use of pet stations and supplies each year.

Public Involvement and Participation Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
2A. Provide printed copies of the MS4 Program.	Year 1	Department of General Services	Provide printed and electronic copies upon DCR approval	New
2B. News item on MS4 Program availability on web site.	Year 1	Department of General Services	Post news item upon plan approval by DCR	New
2C. Promote storm drain marking civic groups and HOAs.	Year 3*	Department of General Services	Execute drain marking program for feasible HOAs	New
2D. Water quality monitoring opportunity promotion.	Year 2*	Department of General Services	Opportunities noted and publicized	New
2E. Pet Waste stations in County Parks.	Year 4*	Department of Parks, Recreation, & Community Services	Install and maintain pet waste stations in County Parks	New

* denotes ongoing programming once initiated.

III. Illicit Discharge Detection and Elimination

As operator of a regulated small MS4, Loudoun County must:

1. Develop, implement and enforce a program to detect and eliminate illicit discharges.
2. Develop and maintain an updated storm sewer system map, showing the location of all known outfalls of the regulated small MS4, the associated surface waters and HUCs, and the names and locations of all impaired surface waters that receive discharges from those outfalls. Estimate the acreage discharging to each HUC and impaired water.
3. To the extent allowable, effectively prohibit, through ordinance, or other regulatory mechanism, nonstormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions.
4. Develop and implement procedures to detect and address nonstormwater discharges, including illegal dumping to the regulated small MS4.
5. Prevent or minimize to the maximum extent practicable, the discharge of hazardous substances or oil in the stormwater discharge(s) from the regulated small MS4, and evaluate the program to develop and implement methods to prevent reoccurrences of such discharges.
6. Track the number of illicit discharges identified and how they were controlled or eliminated, and submit the information in the annual report.
7. Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the connection to that system.

Existing Program

As part of the Stormwater Management Ordinance, adopted in 2003, illicit discharges were defined and prohibited and penalties established for violations. Subsequently, a Standard Operating Procedure for enforcing violations was adopted by the Department of General Services. In addition, the County has two ordinances in effect that address proper disposal of solid waste and litter (Chapter 1080 and 1088), including specific prohibitions for surface water pollution and inspection and enforcement remedies. The County has also drafted and adopted a Hazardous Materials Emergency Response Plan as required under Title III Superfund Amendments and Reauthorization Act (SARA), PL 99-499.

The entire County stormwater system was mapped and all outfalls identified during a period running from 2003 to 2005. The system has been updated approximately every six months to identify new construction and that process is ongoing.

All outfalls 36" in diameter or larger in non-industrial zones and 12" or larger in industrial zones have been dry-weather tested at least twice since the program began but all illicit discharges identified to date have come through inspection, staff observation, and citizen complaints. The County currently operates a citizen hotline for reporting illicit discharges.

3A. BMP: Maintain a Current County Storm Sewer System Map.

Objective: To maintain a current storm sewer system map in order to identify MS4 outfall discharge points to waters of the Commonwealth.

Measurable Goal: The County will maintain its storm sewer system map, with updates completed on a semi-annual basis, to include all known outfalls, including those physically interconnected, the associated surface waters, HUCs, and the names and locations of all impaired waters in the County.

Necessary Documents: None.

Responsible Party: Department of General Services and the Office of Mapping and Geographic Information.

Schedule: Ongoing program.

Items to Report: Actual dates of storm sewer map updates and the current map to be included in the Annual Report.

Method of Evaluation: N/A.

3B. BMP: Determine estimated acreage within the MS4 discharging to each hydrologic unit (HUC) and impaired water.

Objective: To identify acreage throughout the MS4 discharging to each HUC and denote which outfalls discharge to waters listed as “impaired” on the most recent Virginia 305(b)/303(d) impaired waters list.

Measurable Goal: By the conclusion of permit year two, the County will have determined the estimated drainage acreage within the MS4 permit area for each HUC and impaired water identified to date.

Necessary Documents: 2008 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report; Virginia HUC data for Loudoun County.

Responsible Party: Department of General Services.

Schedule: Complete by the conclusion of permit year two and maintained as ongoing program element thereafter.

Items to Report: Listing of acreage by HUC and notation of impaired waters included in list.

Method of Evaluation: N/A.

3C. BMP: Create a new Standard Operating Procedure (SOP) for illicit discharge detection.

Objective: To develop a new County Standard Operating Procedure (SOP) for illicit discharge detection, specifically addressing the role of, and reliance on, dry weather screening based on lessons learned through the implementation of the dry weather screening protocol in the first small MS4 permit cycle.

Measurable Goal: By the conclusion of permit year one, create the County SOP for illicit discharge detection based on lessons learned through implementation in the first permit cycle. The SOP will include prioritization criteria for dry weather flow field screening and other activities designed to identify potential illicit discharges, including the classification and identification of “hot spots,” which may warrant a higher priority for investigation. The updated SOP will also outline a proposed schedule for implementation through the upcoming permit cycle.

Necessary Documents: None.

Responsible Party: Department of General Services.

Schedule: Create SOP by the conclusion of permit year one.

Items to Report: SOP.

Method of Evaluation: Review of dry weather screening technique and its utility in discovery of illicit discharges as well as additional protocols for prioritizing illicit discharge detection activities.

3D. BMP: Conduct system screening for illicit discharge detection.

Objective: To effectively and efficiently identify, to the maximum extent practicable, illicit discharges to the MS4.

Measurable Goal: During permit year one, the County will continue to conduct dry weather screening of outfall pipes 36” in diameter or larger in residential zones and 12” in diameter or larger in industrial zones. Prior to the conclusion of permit year two, the County will implement its new SOP for illicit discharge detection developed under BMP 3C. The new SOP will include prioritization criteria for dry weather flow field screening and other activities designed to identify potential illicit discharges. The SOP will also outline a proposed schedule for implementation through the upcoming permit cycle.

Necessary Documents: Illicit Discharge Detection SOP.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Total number of outfalls screened and other activities undertaken to detect illicit discharges to the MS4; documentation on how identified illicit discharges were identified.

Method of Evaluation: Review of SOP techniques and their success in detecting illicit discharges to the County's MS4.

3E. BMP: Develop a Standard Operating Procedure (SOP) for illicit discharge elimination.

Objective: To develop the County's Standard Operating Procedure (SOP) for illicit discharge elimination, specifically addressing the alternatives available from a practical and legal standpoint as identified in the detection SOP in BMP 3C above.

Measurable Goal: By the conclusion of permit year two, develop the County SOP for illicit discharge elimination based on criteria for addressing dry weather screening results that demonstrate an illicit discharge and the administrative and legal remedies available to the County to eliminate those discharges to the maximum extent practicable. The SOP will also outline a proposed schedule for implementation through the upcoming permit cycle.

Necessary Documents: None.

Responsible Party: Department of General Services.

Schedule: Develop SOP by the conclusion of permit year two.

Items to Report: Completed SOP.

Method of Evaluation: Review of developed SOP for illicit discharge elimination to evaluate the practical and legal remedies developed for their utility in eliminating illicit discharges.

3F. BMP: Implement the Standard Operating Procedure (SOP) for illicit discharge elimination

Objective: To effectively and efficiently eliminate, to the maximum extent practicable, illicit discharges to the MS4 based on the SOP established in BMP 3E above.

Measurable Goal: By the conclusion of permit year three, implement the County SOP for illicit discharge elimination based on criteria for addressing dry weather screening results that demonstrate an illicit discharge and the administrative and legal remedies available to the County to eliminate those discharges to the maximum extent practicable. The SOP will be implemented through the remainder of the permit cycle.

Necessary Documents: Illicit Discharge Elimination SOP.

Responsible Party: Department of General Services.

Schedule: Implement the revised SOP by the conclusion of permit year three.

Items to Report: Documentation on how identified illicit discharges were controlled or eliminated.

Method of Evaluation: Review of SOP's success in eliminating illicit discharges to the County's MS4.

3G. BMP: Develop a Standard Operating Procedure (SOP) for targeted outfall screening to identify potential sources of pollutants identified in wasteload allocations from anthropogenic activities.

Objective: To develop an effective, focused screening programming for the County's regulated stormwater outfalls that is consistent with the required screening related to the General Permit's special conditions for impaired waterways for which a TMDL has been developed and for which a Wasteload Allocation (WLA) has been assigned to the regulated small MS4.

Measurable Goal: During permit year one, the County will develop a SOP for targeted stormwater outfall screening that accounts for the County program's needs and requirements, including those related to the General Permit's special conditions for TMDLs.

Necessary Documents: None.

Responsible Party: Department of General Services.

Schedule: Completed SOP during permit year one.

Items to Report: Completed SOP for Outfall Screening related to TMDL WLAs.

Method of Evaluation: Review of developed SOP for targeted outfall screening to evaluate its ability to identify potential sources of pollutants identified in the WLAs from anthropogenic activities.

3H. BMP: Perform targeted outfall screening to identify potential sources of pollutants identified in wasteload allocations from anthropogenic activities as outlined in the SOP developed in BMP 3G above.

Objective: To conduct stormwater outfall screening, investigate the potential for illicit discharges to the regulated small MS4, and implement required outfall screening criteria associated with General Permit special conditions related to impaired waterways with TMDLs developed and WLAs assigned to the regulated small MS4.

Measurable Goal: Prior to the conclusion of permit year one, the County will screen a minimum of 35 outfalls in the Goose Creek watershed (A08R) based on the waterway's impairment for sediment, associated TMDL and WLA to the MS4. In addition, the County will screen a minimum of 15% of the outfalls in the Bull Run watershed (A23R) based on the waterway's impairments for sediment and bacteria, associated TMDL and WLAs to the MS4. Screening will be based on the SOPs developed in BMP 3G above.

Necessary Documents: SOP for TMDL WLA Outfall Screening

Responsible Party: Department of General Services.

Schedule: Outfall screening to be initiated prior to the completion of permit year one

Items to Report: Total number and location of outfalls screened; documentation of evidence of presence of pollutants of concern (identified in WLAs) from anthropogenic activities.

Method of Evaluation: Review of SOP's success in identifying potential sources of pollutants identified in the WLAs from anthropogenic activities.

3I. BMP: Notify downstream MS4 operators of storm sewer system discharges from the Loudoun County MS4.

Objective: To notify downstream MS4s of physical interconnections to the Loudoun County MS4.

Measurable Goal: By the conclusion of permit year one, the County will notify downstream MS4 operators of storm sewer systems physically interconnected with the Loudoun County MS4

Necessary Documents: County MS4 system map.

Responsible Party: Department of General Services.

Schedule: Complete by the conclusion of permit year one.

Items to Report: Documentation of downstream MS4s notified by the County.

Method of Evaluation: N/A.

Illicit Discharge Detection and Elimination Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
3A. Update County storm sewer map.	Year 1*	Department of General Services	Update and maintain storm sewer system map annually	Existing
3B. MS4 discharge delineation estimates.	Year 2	Department of General Services	Conduct estimate calculations.	New
3C. Develop SOPs for illicit discharge detection.	Year 1	Department of General Services	Update SOPs.	New
3D. Conduct system screening for illicit discharge detection.	Year 1*	Department of General Services	Conduct screening based on criteria developed; TMDL need	Existing
3E. Develop SOPs for illicit discharge elimination	Year 2	Department of General Services	Develop SOPs	New
3F. Implementation of SOPs for illicit discharge elimination	Year 3*	Department of General Services	Utilize SOPs to eliminate ID to the MEP	New
3G. Targeted outfall screening SOP development for TMDL WLAs.	Year 1	Department of General Services	Develop SOP	New
3H. Targeted outfall screening program for TMDL WLAs.	Year 1*	Department of General Services	Conduct screening based on criteria developed; TMDL need	New
3I. Notification of adjacent MS4s	Year 1*	Department of General Services	Notify downstream MS4s, as required	New

* denotes ongoing programming once initiated.

IV. Construction Site Stormwater Runoff Control

As operator of a regulated small MS4, Loudoun County must develop, implement, and enforce procedures to reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. The procedures must include:

1. An ordinance or other mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance with the Virginia Erosion & Sediment Control Law and attendant regulations and it shall be updated as necessary.
2. Requirements for construction site owners and operators to implement an erosion and sediment control best management practices as part of an erosion and sediment control plan that is consistent with the Virginia Erosion & Sediment Control Law and attendant regulations.
3. Requirements for construction site owners and operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for construction activities that result in a land disturbance of greater than or equal to one acre.
4. Procedures for receipt and consideration of information submitted by the public.
5. Procedures for site inspection and enforcement of control measures.
6. Procedures that ensure that plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law.
7. Tracking of regulated land disturbing activities to be submitted in the annual report including the total number of regulated land-disturbing activities and the total number of disturbed acres.

Existing Program

The County currently operates an Erosion and Sediment Control program that has earned the rating of “consistent” by the Virginia Department of Conservation and Recreation. The rating was first achieved in April of 2005 and most recently confirmed in November of 2007.

The program includes an erosion and sediment control ordinance; Chapter 1220 of the Codified Ordinances of Loudoun County, “Erosion Control”. The purpose of the ordinance is to prevent degradation of properties, stream channels, waters, and other natural resources of the County by establishing requirements for the control of soil erosion, sediment deposition, and stormwater runoff by establishing procedures whereby these requirements are administered and enforced.

Construction site operators are required to submit an erosion and sediment control plan in order to obtain a grading permit. County E&S plan reviewers, certified by the state, ensure the adequacy of the plan.

For construction activities that result in a land disturbance of greater than one acre, a Virginia Stormwater Management Permit (VSMP) permit is required and a grading permit is not issued until the County is in receipt of a copy of the VSMP application to the state and a copy of the check submitted for payment.

The Loudoun County Active Citizen Response is a program managed by the County whereby citizens can call in complaints and give input on a variety of issues including erosion and sediment control and stormwater management.

The Department of Building and Development performs erosion and sediment control inspections under a Department of Conservation and Recreation approved alternate inspection program. The inspection schedule is derived by prioritizing sites based on disturbed area, slope, distance to a watercourse, buffer, vegetation, and distance to downstream properties. All inspections are conducted using a standardized checklist by certified inspectors whose only task is to inspect the erosion and sediment controls. Building inspection and engineering inspection are conducted by others.

4A. BMP: Administer and implement the County Erosion and Sediment Control program.

Objective: To ensure, to the maximum extent practicable, the administration and implementation of a County Erosion and Sediment Control Program that complies with the Virginia Erosion and Sediment Control Law and attendant Regulations, as amended.

Measurable Goal: The County will maintain a rating of “consistent” for its Erosion and Sediment Control program during this permit term. Should the County be found inconsistent during this permit cycle, the County will work with DCR to develop a Corrective Action Agreement (CAA) suitable to both the County and DCR. The County will implement the CAA in accordance to the schedule included in the CAA.

Necessary Documents: Facilities Standards Manual, as amended; E&S Ordinance (County Code Chapter 1220); Grading Permit Application; Plan Review Checklist; Site Inspection Checklist; Compliance and Enforcement Policies.

Responsible Party: Department of Building and Development.

Schedule: Ongoing program.

Items to Report: Number of Plans Approved; Total Number of Disturbed Acres; Total Number of Land Disturbing Activities; Number of E&S Inspections; Number of Notices to Comply/Stop Work Orders Noted/Corrected.

Method of Evaluation: County self-audit procedures outlined in BMP 4G below and periodic County program audit by the Department of Conservation and Recreation.

4B. BMP: Ensure coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities

Objective: To ensure, to the maximum extent practicable, compliance with construction site management protocols and BMPs for land disturbing activities meeting the permit thresholds.

Measurable Goal: The County will continue to require proof of application for coverage under the VSMP General Permit for Stormwater Discharges from Construction Activities for construction activity disturbing areas greater than or equal to one acre or construction activity disturbing less than one acre if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Documentation shall consist of a copy of the completed VSMP General Permit for Stormwater Discharges from Construction Activities Registration Statement and record of payment to Virginia DCR. This documentation is required for the issuance of a County Grading Permit.

Necessary Documents: Copies of Application for Coverage under the VSMP General Permit for Stormwater Discharges from Construction Activities; Grading Permit Application.

Responsible Party: Department of Building and Development.

Schedule: Ongoing program.

Items to Report: Number of Grading Plans Approved; Total Number of VSMP Construction Permit application packages documented.

Method of Evaluation: N/A.

4C. BMP: Establish and implement procedures to identify non-filers for required County grading permits.

Objective: To ensure, to the maximum extent practicable, that land disturbing activities in the County are properly permitted.

Measurable Goal: The County will develop the necessary protocols and procedures to identify non-filers for required grading permits using two conceptual tools, including a County phone hotline for receipt of information from the public and an “all eyes” program for County employees to note un-permitted land disturbances, no later than the conclusion of permit year two.

Necessary Documents: Erosion and Sediment Control hotline call records.

Responsible Party: Department of Building and Development.

Schedule: The County will develop and implement grading permit non-filer identification protocols by the end of permit year two. The County will continue to implement the protocols through the remaining portion of the permit term.

Items to Report: Number of non-filers identified each year; number of enforcement/corrective actions initiated each year.

Method of Evaluation: Review of established and implemented procedures to evaluate success in identifying non-filers for required County grading permits.

4D. BMP: Develop formal, written Standard Operating Procedures (SOPs) for conducting Construction Site inspections.

Objective: To ensure, to the maximum extent practicable, consistency in County construction site inspection services for erosion and sediment control, the County will develop formal, written SOPs for inspection staff that incorporate and organize the construction site inspection process, including erosion and sediment control measures. The SOP will ensure continued E&S program execution consistency.

Measurable Goal: The County will develop the noted SOPs and distribute these documents to each E&S inspector by the end of permit year three. The SOPs will be reviewed each year to ensure continued applicability, and will be amended as needed.

Necessary Documents: Erosion and Sediment Control Ordinance (Chapter 1220, Codified Ordinances of Loudoun County).

Responsible Party: Department of Building and Development.

Schedule: The County will develop the SOPs by the end of permit year three.

Items to Report: Copy of the SOP document once drafted and approved for use by the County.

Method of Evaluation: Review of developed SOP for conducting construction site inspections to evaluate its capability to ensure consistency in County construction site inspection services for erosion and sediment control.

4E. BMP: Provide Training for County Construction Site Inspection Staff.

Objective: To ensure, to the maximum extent practicable, that County E&S Program staff maintain the proper certifications based on their job descriptions.

Measurable Goal: Erosion and Sediment Control Program staff will remain certified as required by both the Virginia Erosion and Sediment Control Law and attendant regulations and the Erosion and Sediment Control Program.

Necessary Documents: None.

Responsible Party: Department of Building and Development.

Schedule: Ongoing program. County staff members are required to re-certify on a rolling schedule at least once every three years.

Items to Report: Total number of staff members and number of certified staff for E&S Combined Administration; E&S Plan Review; and E&S Inspection as administered by Virginia DCR.

Method of Evaluation: County self-audit procedures outlined in BMP 4G below and periodic County program audit by the Department of Conservation and Recreation.

4F. BMP: Evaluate the County's Zoning Ordinance and Facilities Standards Manual for potential erosion and sediment control amendments in the Goose Creek and Bull Run watersheds.

Objective: To investigate the available mitigation methods for addressing the TMDL for sediment in the Goose Creek and Bull Run watersheds in the County.

Measurable Goal: The County will investigate the feasibility, and evaluate the alternatives deemed feasible, of amending the County Zoning Ordinance and/or the County Facilities Standards Manual to facilitate the implementation of enhanced erosion and sediment control measures and practices, exceeding the current criteria, for land disturbances in the Goose Creek and Bull Run watersheds within the County.

Necessary Documents: Zoning Ordinance, Facilities Standards Manual.

Responsible Party: Department of General Services.

Schedule: The County will evaluate potential amendments to the Zoning Ordinance and/or the Facilities Standards Manual for programmatic enhancements to the County's Erosion and Sediment Control program in the Goose Creek and Bull Run watersheds by the end of permit year three.

Items to Report: Zoning Ordinance and Facilities Standards Manual investigation report.

Method of Evaluation: N/A.

4G. BMP: Audit County Construction Site Inspections.

Objective: To ensure, to the maximum extent practicable, that E&S Inspection staff are adequately and consistently evaluating and inspecting open project sites that meet the regulatory requirements for disturbed area.

Measurable Goal: Erosion and Sediment Control Program staff will develop an inspection auditing program that will review and critique selected erosion and sediment control inspections throughout the year to ensure consistency and adequacy of inspection by the conclusion of permit year two, and will implement the auditing program on an annual basis thereafter for the duration of the permit term.

Necessary Documents: E&S inspection audit policy and checklist.

Responsible Party: Department of Building and Development.

Schedule: The Department of Building and Development will develop the E&S inspection auditing program by the end of permit year two, and will implement for the remainder of the permit period based on the established schedule noted above.

Items to Report: Number of E&S inspection audits and findings and program documentation for audits conducted each year.

Method of Evaluation: Review audit procedures and outcomes to ensure that E&S Inspection staff are adequately and consistently evaluating and inspecting open project sites that meet the regulatory requirements for disturbed area.

Construction Site Stormwater Runoff Control Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
4A. Administer and implement the County's E&S Control Program.	Year 1*	Department of Building & Development	Maintain E&S Program rating of "consistent."	Existing
4B. Ensure coverage under VSMP General Permit for Stormwater Discharges from Construction Activities for requisite land disturbing activities.	Year 1*	Department of Building & Development	Require copy of application for coverage and copy of check to DCR prior to issuance of Grading Permit.	Existing
4C. Grading plan non-filer identification.	Year 2*	Department of Building & Development	Ensure that land disturbing activities are properly permitted at the local level.	New
4D. Develop formal, written Standard Operating Procedures for conducting Construction Site inspections.	Year 3	Department of Building & Development	Develop and distribute construction site inspection SOPs to E&S inspectors by the end of PY 3.	New
4E. Construction Site Inspection Staff Training.	Year 1*	Department of Building & Development	Ensure consistent certifications for those County personnel associated with the E&S Program.	Existing
4F. Assessment of the County Zoning Ordinance and/or Facilities Standards Manual for E&S programming enhancements in Goose Creek & Bull Run watersheds.	Year 3	Department of Building & Development	Ensure proper E&S Program certifications for staff; implement inspector training to include protocols from SOPs as needed.	New
4G. E&S Program inspection audits.	Year 2*	Department of Building & Development	Ensure that E&S inspections are consistently and adequately performed.	New

* denotes ongoing programming post initiation.

V. Post-Construction Stormwater Management

As operator of a regulated small MS4, Loudoun County must:

1. Develop and implement strategies of structural and nonstructural BMPs appropriate to the local community. Where determined appropriate by the operator, the operator shall encourage the use of structural and non-structural design techniques to create a design that has the goal of maintaining or replicating predevelopment runoff characteristics and site hydrology.
2. Use an ordinance, regulation, or other mechanism to address post-construction runoff and ensure compliance with the Virginia Stormwater Management Act and attendant regulations and update it as necessary.
3. Requirements for construction site owners and operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for construction activities that result in a land disturbance of greater than or equal to one acre.
4. Require adequate long-term operation and maintenance of structural stormwater management facilities including inspection record development and tracking and enforcement mechanisms.
5. Conduct site inspection and enforcement measures consistent with the Virginia Stormwater Management Act.
6. Track all known permanent stormwater management facilities that discharge into the regulated small MS4 by type, HUC, impaired surface water, and number of acres treated.

Existing Program

The County has an adopted Facility Standards Manual (FSM) which addresses the design of stormwater conveyance systems and BMPs. In addition to some specific supplemental standards, the FSM adopts the most current versions of the VDOT Drainage Manual, the Virginia Erosion and Sediment Control Handbook, and the Virginia Stormwater Management Handbook. Low Impact Design methods are encouraged in the Zoning Ordinance, the County General Plan, and the FSM.

Chapter 1096 of the Codified Ordinances of Loudoun County, Stormwater Management, was adopted October 20, 2003. It established the stormwater management program. Under this program, the County assumed maintenance responsibilities for most of the existing stormwater system and provided a process for property owners to transfer the remaining facilities to County maintenance as well. Based on the latest revision to the ordinance, facilities for which primary responsibility for maintenance remains with the property owner include wet ponds and/or lakes which have uses in addition to stormwater control and manufactured stormwater management systems. Further, the ordinance created an enforcement capability to ensure that those facilities remaining under private control were regularly inspected and maintained.

The County's current maintenance program requires an annual inspection of all BMPs. Once every three years, the BMP inspection includes a complete structural review. All other stormwater facilities are on a five-year inspection cycle.

5A. BMP: Evaluate, and update as necessary, the Stormwater Management Ordinance (Chapter 1096, Codified Ordinances of Loudoun County).

Objective: To ensure, to the maximum extent practicable, that the Stormwater Management Ordinance stays current with the requirements of a qualifying local stormwater management program and is consistent with the requirements of the Virginia Stormwater Management Law and attendant Regulations, as amended.

Measurable Goal: During permit year two, the County will initiate a formal review, to include recommendations for updates and/or amendments, of the current Stormwater Management Ordinance (Chapter 1096, Codified Ordinances of Loudoun County).

Necessary Documents: Chapter 1096, Codified Ordinances of Loudoun County.

Responsible Party: Department of General Services, with assistance from the County Attorney's office.

Schedule: The County will initiate the ordinance review in permit year two.

Items to Report: Findings of ordinance review and copies of any initiated amendments, as applicable, to the ordinance.

Method of Evaluation: N/A.

5B. BMP: Implement permanent structural and non-structural stormwater best management practices (BMPs) to manage post-construction stormwater runoff as outlined in the Facilities Standards Manual.

Objective: The Facilities Standards Manual (FSM), Chapter Five, outlines the County's design, implementation, construction, and post-construction requirements for the management of stormwater quantity and quality runoff through the use of structural and non-structural stormwater BMPs. The FSM directly references the requirements and guidance found in the Virginia Erosion and Sediment Control Handbook, as amended, as well as the Virginia Stormwater Management Handbook, as amended. Implementation of the FSM requirements provides for the proactive management of stormwater runoff from land development projects, post-construction, within the County.

Measurable Goal: The County will continue to provide for the management of post-construction stormwater runoff, both quantity and quality, as outlined in the requirements of the Facilities Standards Manual, as amended, throughout the permit term.

Necessary Documents: Facilities Standards Manual, Chapter Five.

Responsible Party: Department of Building and Development.

Schedule: Ongoing program.

Items to Report: The County will track and report on the number of known structural BMPs that discharge to the regulated small MS4, including the type of facility, geographic location (HUC), any impaired surface water to which the facility discharges, and the number of acres treated by the facility.

Method of Evaluation: Review the County FSM BMP menu for adequate alternatives for managing post-construction stormwater runoff.

5C. BMP: Inspect the permanent, post-construction stormwater management best management practices (BMPs) within the County.

Objective: To ensure, to the maximum extent practicable, that the County's post-construction stormwater management facilities are functioning as designed for stormwater runoff quality and quantity management.

Measurable Goal: The County will perform, starting in permit year one, annual inspections of the permanent, post-construction stormwater management BMPs within the County that are situated outside of Virginia Department of Transportation maintained rights-of-way, Dulles International Airport property and rights-of-way, Dulles Greenway property and rights-of-way, and the County's incorporated Towns.

Necessary Documents: Stormwater Management Ordinance (Chapter 1096, Codified Ordinances of Loudoun County); County stormwater facility inspection checklist.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Stormwater management facility inspection summary of findings by year.

Method of Evaluation: N/A.

5D. BMP: Provide scheduled maintenance for County maintained permanent stormwater management best management practices (BMPs).

Objective: As a follow up to the inspection tasks outlined in 5C above, ensure, to the maximum extent practicable, that permanent stormwater facilities for which the County has primary maintenance responsibility are functioning to their original design capabilities through the provision of scheduled, routine maintenance.

Measurable Goal: The County will perform, starting in permit year one, the scheduled, routine maintenance activities necessary to ensure that permanent structural stormwater management facilities, for which the County has primary maintenance responsibility, are functioning at their original design capabilities.

Necessary Documents: Stormwater management facility inspection findings and design specifications.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Stormwater management facility maintenance activity for the permit year.

Method of Evaluation: N/A.

5E. BMP: Require maintenance for non-County maintained permanent stormwater management best management practices (BMPs).

Objective: As a follow up to the inspection tasks outlined in 5C above, ensure, to the maximum extent practicable, that permanent stormwater facilities for which the property owner has primary maintenance responsibility are functioning to their original design capabilities through the implementation and enforcement of the maintenance provisions for such facilities included in the Stormwater Management Ordinance (Chapter 1096).

Measurable Goal: Starting in permit year one, the County will notify those property owners responsible for maintaining stormwater management facilities of any deficiencies discovered during County inspection and ensure facilities are functioning to their original design capability utilizing the enforcement procedures outlined in Chapter 1096, Codified Ordinances of Loudoun County.

Necessary Documents: Stormwater Management Ordinance (Chapter 1096, Codified Ordinances of Loudoun County)

Responsible Party: Department of General Services.

Schedule: Initiate in permit year one.

Items to Report: Stormwater management facility maintenance inspection tracking and enforcement documentation for privately maintained stormwater facilities for the permit year.

Method of Evaluation: Review record of maintenance execution based on requirements conveyed in inspection reports submitted on facilities for which the property owner has primary maintenance responsibilities.

5F. BMP: Provide training for County staff on the inspection of permanent stormwater management facilities.

Objective: To ensure, to the maximum extent practicable, that the County's inspection personnel and inspection contractors are adequately trained in both the mechanics/functionality of the County's stormwater management facilities as well as the safety and field awareness procedures necessary to operate safely. The training program will facilitate the County's efforts to ensure that post-construction stormwater management facilities are functioning as designed for stormwater runoff quality and quantity management.

Measurable Goal: The County will perform, starting in permit year one, annual training on permanent stormwater management facility functionality and inspection procedures for County inspection staff.

Necessary Documents: Stormwater management facility inspection training agenda, course outline, and attendance roster.

Responsible Party: Department of General Services.

Schedule: The County will provide training for stormwater facility inspection staff at least once a year, starting in permit year one.

Items to Report: Stormwater management facility inspection training agenda and attendance roster.

Method of Evaluation: Pre- and post-training evaluations for maintenance inspection staff.

5G. BMP: Update the County's database of permanent stormwater management facilities.

Objective: To provide the stormwater management program managers in the County an accurate inventory of structural, post-construction stormwater management facilities in the County and to ensure that each facility is inspected on the agreed upon schedule.

Measurable Goal: The County will continue to update its database of permanent stormwater management facilities on an ongoing basis each year through the permit cycle.

Necessary Documents: Database of permanent stormwater management facilities.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Annual report on the number of structural, post-construction stormwater management facilities in the County.

Method of Evaluation: N/A.

5H. BMP: Maintain the County database of stormwater management facility inspection information, findings, and outcomes.

Objective: To track and report on the findings and eventual outcomes of the County stormwater management facility inspection program. The data collected will provide the County the opportunity to track its performance in ensuring the proper operation and maintenance of structural, post-construction stormwater management facilities.

Measurable Goal: The County will maintain its database of stormwater management facility inspection information, including findings and outcomes from the inspection process each year during the permit cycle.

Necessary Documents: Database of permanent structural stormwater management facilities.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Report of inspection findings and outcomes each year during the permit cycle.

Method of Evaluation: N/A.

5I. BMP: Evaluate the Facilities Standards Manual and the Zoning Ordinance for potential regulatory barriers to the implementation of Low Impact Development (LID) stormwater management practices, including non-structural practices.

Objective: Examine the County's current land development management tools to determine whether or not any regulatory barriers exist for implementation of low impact development (LID) stormwater management practices.

Measurable Goal: The County will evaluate the Facilities Standards Manual and the Zoning Ordinance for potential regulatory barriers to the implementation of Low Impact Development (LID) stormwater management practices, including non-structural practices by the conclusion of permit year three.

Necessary Documents: Facilities Standards Manual, Zoning Ordinance.

Responsible Party: Department of General Services.

Schedule: The County will evaluate the FSM and Zoning Ordinance as described above by the conclusion of permit year three.

Items to Report: Report of FSM and Zoning Ordinance investigation findings.

Method of Evaluation: N/A.

Post-Construction Stormwater Management Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
5A. Stormwater Management Ordinance Review (Chapter 1096)	Year 2	Department of General Services	Maintain compliant local stormwater management ordinance.	Existing
5B. Implement post-construction SWM FSM requirements.	Year 1*	Department of General Services and Department of Building & Development	Ensure post-construction stormwater management criteria are implemented.	Existing
5C. Inspect permanent stormwater management facilities.	Year 1*	Department of General Services	Ensure that post-construction SWM facilities are functioning as designed.	Existing
5D. Provide scheduled County-maintained SWM facility maintenance	Year 1*	Department of General Services	Ensure that post-construction SWM facilities are functioning as designed.	Existing
5E. Require maintenance for non-County maintained SWM facilities	Year 1*	Department of General Services	Ensure that post-construction SWM facilities are functioning as designed.	Existing
5F. Provide County staff SWM facility inspection training.	Year 1*	Department of General Services	Ensure County inspection staff gets adequate training for SWM facility inspection and safety procedures.	Existing
5G. Update County SWM facility database	Year 1*	Department of General Services	Ensure an accurate SWM facility inventory. Uses the DCR-prescribed database.	Existing
5H. Maintain County SWM facility inspection database.	Year 1*	Department of General Services	Track and report findings of inspections and maintenance outcomes.	Existing
5I. FSM/Zoning Ordinance evaluation for LID barriers	Year 3	Department of General Services	Identify potential barriers to LID implementation for SWM purposes.	New

* denotes ongoing programming post initiation

VI. Pollution Prevention / Good Housekeeping

As operator of a regulated small MS4, Loudoun County must develop, implement, evaluate and modify, as necessary, an operation, maintenance, and training program for municipal operations that meets the following measurable goals:

1. Operation and maintenance programs including activities, schedules, and inspection procedures shall include provisions and controls to reduce pollutant discharges.
2. Illicit discharges shall be eliminated from storage yards, fleet or maintenance shops, outdoor storage areas, rest areas, waste transfer stations, and other municipal facilities.
3. Waste materials shall be disposed of properly.
4. Materials that are soluble or erodible shall be protected from exposure to precipitation.
5. Materials, including but not limited to fertilizers and pesticides, that have the potential to pollute receiving surface waters shall be applied according to manufacturer's recommendations.

Existing Program

Beginning with their initial NPDES Phase II Stormwater Management Plan, the County has identified efforts to address its good housekeeping practices and prevent stormwater pollution from County operated sites. In December 2002, site audits were conducted at five County-operated facilities that, while not subject to NPDES industrial permitting requirements for stormwater runoff, were initially identified as susceptible to stormwater pollution. This initial assessment was based primarily on the activities undertaken and materials stored at these five facilities.

Upon completion of the five facility audit, which was conducted using protocols and guidelines established by the US EPA for stormwater pollution prevention plan (SWPPP) development (EPA 832-R-92-006), the County selected two facilities for voluntary SWPPP development, the Central Warehouse and Maintenance Facility and the Parks and Recreation Warehouse and Maintenance Facility. These facilities were selected based on the activities on site; materials stored, and susceptibility of those activities and materials to stormwater pollution; and the fact that neither was separately permitted. These SWPPPs were developed using the same US EPA guidance as that used in the initial site evaluations, and were completed in November, 2003.

6A. BMP: Update Stormwater Pollution Prevention Plans (SWPPPs) for County facilities for which a SWPPP has been developed.

Objective: Ensure, to the maximum extent practicable, that existing County facility Stormwater Pollution Prevention Plans (SWPPPs) are up to date and adequately and accurately address the stormwater pollution potential at County facilities.

Measurable Goal: Prior to the completion of permit year two, the County will conduct a review of existing SWPPPs to ensure adequacy and accuracy. Upon a finding of need for update/revision, the County will complete the update/revision prior to the completion of permit year two.

Necessary Documents: Facility SWPPPs.

Responsible Party: Department of General Services.

Schedule: Complete prior to the conclusion of permit year two.

Items to Report: Updated SWPPPs, as applicable.

Method of Evaluation: N/A.

6B. BMP: Provide training to County staff on the implementation of facility SWPPPs.

Objective: Ensure, to the maximum extent practicable, that County staff is adequately trained on the purpose, use, and implementation of existing Stormwater Pollution Prevention Plans (SWPPPs).

Measurable Goal: By the conclusion of permit year three, the County will provide facility staff training for staff at facilities covered by a SWPPP.

Necessary Documents: Facility SWPPPs.

Responsible Party: Department of General Services.

Schedule: Provide training by the conclusion of permit year three.

Items to Report: Attendance roster and training materials for each scheduled training event.

Method of Evaluation: Pre- and post-training evaluations for facility staff on SWPPP.

6C. BMP: Develop and implement pollution prevention protocols for County contractors to protect water quality.

Objective: Ensure, to the maximum extent practicable, that County contractors are aware of the need to conduct their work in such a way as to protect water quality to the maximum extent practicable (MEP).

Measurable Goal: Develop and implement pollution prevention protocols for County contractors, including landscapers and stormwater system maintenance contractors, to protect water quality by the conclusion of permit year four. The County will include standard language in contracts noting the need to comply with the County's water quality protection criteria once developed.

Necessary Documents: Loudoun County standard contract.

Responsible Party: Department of General Services, with assistance from the County Purchasing Department.

Schedule: Develop and implement the protocols through the contracting process by the conclusion of permit year four.

Items to Report: Amendments to standard contract.

Method of Evaluation: Upon BMP implementation, review of purchasing requirements demonstrating contractor awareness of the need to conduct their work in such a way as to protect water quality to the maximum extent practicable.

6D. BMP: Provide training on County pollution prevention protocols for County contractors to protect water quality.

Objective: Ensure, to the maximum extent practicable, that County contractors are adequately trained on the purpose, use, and implementation of the County's water quality requirements for contractors.

Measurable Goal: By the conclusion of permit year five, the County will provide one contractor water quality training session on the County's contractor requirements.

Necessary Documents: Standard contract amendments related to water quality protection.

Responsible Party: Department of General Services, with assistance from the County Purchasing Department.

Schedule: Conduct contractor training once prior to the conclusion of permit year five.

Items to Report: Attendance roster and training materials for the scheduled training event.

Method of Evaluation: Pre- and post-training evaluations for participating County contractors on water quality requirements.

6E. BMP: Develop a County employee e-mail notification system for stormwater pollution prevention topics, including training notifications.

Objective: To provide a service that provides County employees with periodic messages related to stormwater management, water quality, and stormwater pollution prevention. By providing the necessary information directly to County staff, the County staff can serve as an observant, "eyes and ears" resource for the stormwater management program.

Measurable Goal: Develop a County employee electronic mail broadcast messaging capability by the conclusion of permit year one. Broadcast messages to County staff seasonally thereafter.

Necessary Documents: County Information Technology Standards and Specifications; County Internet Web Site Development Protocols.

Responsible Party: Department of Information Technology, with assistance from the Department of General Services.

Schedule: Develop the capability to deliver informational e-mails to County staff by the conclusion of permit year one.

Items to Report: Number of broadcast messages related to stormwater management, water quality, and stormwater pollution prevention executed in the permit year.

Method of Evaluation: N/A.

6F. BMP: Maintain a formal mechanism to track all County employees who are certified applicators of controlled, land-applied substances (herbicides, pesticides, etc.).

Objective: To ensure, to the maximum extent practicable, that all County staff that handle controlled, land applied substances receive proper training and certification in the proper use and storage of those substances.

Measurable Goal: Throughout the term of the permit, the County will continue to track all County employees' training and certification status for land application of controlled substances.

Necessary Documents: Applicable training and certification records for County employees.

Responsible Party: Department of General Services.

Schedule: Ongoing program.

Items to Report: Report of certification status as part of the County's annual report.

Method of Evaluation: N/A.

Pollution Prevention/Good Housekeeping Summary				
BMP/Task	Permit Year to Implement	Primary Responsible Party(ies)	Summary of Measurable Goals	New or Existing Program
6A. Update SWPPPs for County facilities.	Year 2	Department of General Services	Review and update as necessary.	Existing
6B. SWPPP Training for County staff.	Year 3	Department of General Services	Provide training for applicable County staff.	Existing
6C. Pollution prevention protocol development for County contractors.	Year 4	Department of General Services	Develop and implement through County contract language.	New
6D. Pollution prevention protocol training for County contractors.	Year 5	Department of General Services	Provide one training session for contractors.	New
6E. County employee e-mail notification.	Year 1*	Department of Information Technology	Develop seasonal e-mail notifications to County staff	New
6F. Track certified applicator status for County employees	Year 1*	Department of General Services	Continue annual tracking	Existing

* denotes ongoing programming post initiation